

Replace by AH 9

2. Claims

1.) Measuring device to detect non-precise application of testing sites onto measuring sensors to reduce measuring errors for an accurate as possible measurement of measuring values like e.g. physiological values from the human or animal skin surface for the purpose of creating robust measuring systems to measure values under real and challenging conditions respectively comprising

the sensor elements are divided into a number of main sensors and auxiliary sensors which are mounted on the surface to be contacted, that their positions to each other are known to the analyzing system, that one or more common reference sensors are arranged and that through the signals of the main sensors and auxiliary sensors the contact area of the main sensors and auxiliary sensors with the testing site can be detected whereat then only the completely covered main sensors and if wished for also the completely covered auxiliary sensors within the contact area are used for the actual measurements.

2.) Device according to claim 1 comprising that

a multitude of sensor elements are mounted on the contacted surface which serve at the same time or consecutively as main, auxiliary and if necessary as reference sensors to detect the contact area of the testing site comprised of completely covered sensor elements through measuring in a matrix fashion with every sensor element whereat then again only the completely covered sensor elements within that contact area are used for the actual measurements.

3.) Device according to claims 1 and 2 in order to not lose the contact of the testing site with the sensor elements and so avoid measuring errors comprising

the sensor elements are movable and thus at the first contact or at movements can track the testing site.

4.) Device according to claims 1 and 2 in order to not lose the contact of the testing site with the sensor elements and so avoid measuring errors comprising

the sensor elements are pliable and thus at the first contact or at movements can track the testing site.

5.) Device according to claims 1 and 2 in order to reduce measuring errors caused by variable bearing pressure of the skin onto the sensor elements comprising

the contact areas or the complete sensor element for the measurement of skin resistance is spring-mounted in order to produce a constant as possible bearing pressure.

6.) Structure of a software for the analysis of the measuring data of the device according to claims 1 and 2 comprising

the state "certain sensor elements completely covered" can be distinguished through the positioning of the sensor elements which is known to the system and the signals of the sensor elements, in which case the detected completely covered sensor elements are used for measurements as accurately as possible while otherwise the measured data is rejected or corrected if possible and thus measuring errors are eliminated, as well that a warning can be given to the user, an action to correct the sensors can be demanded and the geometric position of the contact area can be processed further.